FOR GOD AND COUNTRY

ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION
TERM: FIRST
Subject: BIOLOGICAL SCIENCES

TEACHER`S NAME: SHAISTA AHMED
CLASS: 12 SECTION: A1, A2

Syllabus planning for the academic year 2021-22
No. of working days:- 39

MONTH	LESSONS	TOPICS COVERED	HOMEWORK	CLASSWORK
MAY	-	-	-	-
JUNE	-	-	-	-
JULY	SESSION BEGINS ON 05.07.21 to 15.09.21 CHAPTER 1- REPRODUCTION IN ORGANISMS CHAPTER-2 SEXUAL REPRODUCTION IN FLOWERING PLANTS CHAPTER-3 HUMAN REPRODUCTION	Asexual reproduction ,sexual reproduction, pre- and post- fertilization events. Structure and details of parts of flower, Pre fertilization –Structures and events, Double fertilization ,Post fertilization, Post fertilization –Events and structures ; Apomixis and Polyembryony Male and female reproductive structures and Gametogenesis, Menstrual cycle	Short answer type (SAQ) and very short answer type (VSAQ) questions were given on the topics- asexual reproduction, pre and post fertilization events. Objective type (VSAQ) and (SAQ) questions on the topics were given – Male reproductive organs, Female reproductive organs, Sporogenesis ,Post fertilization events- Embryo and endosperm formation, Seed and fruit formation. Types of apomixis and Polyembryony. SAQ and VSAQ questions were given on the male and female reproductive structures and gametogenesis and Menstrual cycle	Explanation on the topics and notes given on Modes of Asexual Reproduction and types of syngamy Explanation of the topics were done- Male reproductive organs, Female reproductive organs, Sporogenesis ,Post fertilization events- Embryo and endosperm formation, Seed and fruit formation. Types of apomixes and Polyembryony. Notes on megasporogenesis, microsporogenesis ,types of endosperm and flowchart of male and female gametophyte development was given Explanation of male and female reproductive structures and Menstrual cycle was done. Explanation of and Flowcharts for Spermatogenesis and Oogenesis was done.Diagrams of human testis and ovaries were given .
AUGUST	CHAPTER-3 HUMAN REPRODUCTION CHAPTER- 4 REPRODUCTIVE HEALTH CHAPTER -5 PRINCIPLES OF INHERITANCE AND VARIATION CHAPTER 10- MICROBES IN HUMAN WELFARE	Fertilization and Implantation, Pregnancy and Embryonic development ,Parturition and Lactation Reproductive health –Problems and Strategies, Population explosion ,Medical termination of Pregnancy, Infertility and Sexually Transmitted Diseases. Mendelism. Inheritance of one gene and two genes, Sex determination, Mutation and Genetic Disorders Microbes in Household products, Industrial products in Biogas production and in Sewage treatment , Biocontrol agents and Microbes in Bio fertilizers.	Objective type questions (SAQ, VSAQ) were given on the topics of implantation ,fertilization ,Pregnancy and Embryonic membranes Parturition and Lactation was given. Short questions on the topics - Reproductive health –Problems and Strategies, Population explosion ,Medical termination of Pregnancy, Infertility and Sexually Transmitted Diseases were given. Short and very short answer type questions were given on the following topics Mendelism. Inheritance of one gene and two genes, Sex determination, Mutation and Genetic Disorders. Genetic problems were given. Objective questions (SAQ,VSAQ) were given on the following topics - Microbes in Household products ,Industrial products in Biogas production and in Sewage treatment , Bio control agents and Microbes in Bio fertilizers.	Explanation on the topics of fertilization, Pregnancy and Embryonic membranes, Parturition and Lactation and notes given on hormonal control of Parturition and Lactation. Explanation of the topics were done- Problems and Strategies of Reproductive health , Population explosion ,Medical termination of Pregnancy, Infertility and Sexually Transmitted Diseases. Definitions of Infertility and MTP were given and causes were discussed. Notes given on Birth Control Measures. Explanation of Mendelian laws and Non Mendelian Inheritance was done. Notes given on Incomplete Dominance,Co Dominance, Multiple Allelism, Pleiotropy , Polygenic inheritance. Explanation of Genetic Disorders with reference to mutations and Pedigree Analysis was done. Explanation of the topics- Microbes in Household products, Industrial products in Biogas production and in Sewage treatment, Bio control agents and Microbes in Bio fertilizers. Notes given on Bio fertilizers and Bio control agents.

Teachers are requested to prepare a LESSON PLAN for each Topic to be taught. The Lesson plans are to be submitted along with the monthly planner.

Submitted on: 15.03.2021

Signature of Teacher: Shaista Ahmed

Academic Co-ordinator: Jayshree Thapa 15/3/21

PRINCIPAL

VICE PRINCIPAL 15/3/2021

ST. LAWRENCE HIGH SCHOOL

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TERM: FIRST AND SECOND

TEACHER`S NAME: SHAISTA AHMED

Syllabus planning for the academic year 2021

Subject: BIOLOGICAL SCIENCE

CLASS: 12

SECTION: A1, A2

No. of working days:- 66

MONTH	LESSONS	TOPICS COVERED	HOMEWORK	CLASSWORK
SEPTEMBER	CHAPTER 06: MOLECULAR BASIS OF INHERITANCE FIRST TERM EXAMINATION STARTS FROM –16.09.21	The DNA – Search for Genetic material ,RNA world ,DNA Replication ,Protein Synthesis – Transcription ,Translation, genetic code and Regulation of Gene Expression ,Human Genome Project, DNA Fingerprinting Revision of First term Syllabus- Chapters – 1,2,3,4,5,6 and 10	Short answer type questions to be given on topics- DNA as the genetic material, DNA Replication ,Protein synthesis ,Gene expression ,Human Genome Project and DNA fingerprinting Long answer type questions were given on the topics – Transcription, Translation, Genetic Code and Lac Operon	Explanation, discussion and notes to be given on the topic – The DNA – Search for Genetic material, DNA Replication ,Protein Synthesis – Transcription ,Translation, genetic code and Regulation of Gene Expression ,Human Genome Project, DNA Fingerprinting
OCTOBER	SECOND TERM BEGINS 01-10-21 to 14-02-22 CHAPTER 07- EVOLUTION CHAPTER 8- HUMAN HEALTH AND DISEASES	Origin of life, Evidences of Evolution, Adaptive radiation, Biological evolution , Mechanism of Evolution- Hardy Weinberg Principle , A brief Account of Evolution and Origin and Evolution of Man. Common Diseases in Humans, AIDS and Cancer	Short answer type questions to be given on topics – Origin of life , Evidences of evolution, Mechanism of Evolution – Hardy Weinberg Mechanism ,Evolution of man Short answer type questions – Common Diseases in Humans ,AIDS and Cancer	Explanation and discussion on : Origin of life, Evidences of Evolution, Adaptive radiation , Biological evolution , Mechanism of Evolution- Hardy Weinberg Principle , A brief Account of Evolution and Origin and Evolution of Man. Explanation and notes to be given on topics- Common diseases in Humans caused by viruses,bacteria, fungi and protozoans ,Causes and Symptoms of AIDS and Cancer
NOVEMBER	CHAPTER 8-HUMAN HEALTH AND DISEASES CHAPTER 9 STRATEGIES FOR ENHANCEMENT IN FOOD PRODUCTION CHAPTER 11:BIOTECHNOLOGY: PRINCIPLES AND PROCESSES CHAPTER 12:BIOTECHNOLOGY AND IT'S APPLICATION	Immunity and it's types, Immune system in the body Animal Husbandry ,Dairying, Animal Breeding- Definition and it's types, Apiculture ,Fisheries, Plant Breeding and Hybridization ,bio fortification, Single cell protein and Tissue culture. Principles of Biotechnology, tools of Recombinant DNA technology, Process of Recombinant DNA technology. Biotechnological applications in Agriculture-Bt cotton; pest resistant plants ; Biotechnological applications in medicine	SAQ type questions on types of Immunity and Human Immune system Objective type of questions (SAQ, VSAQ) were given on Animal Breeding, Animal Husbandry, Plant Breeding technique, Tissue Culture, Bio fortification and SCP. SAQ and VSAQ type questions were given on Principles of Biotechnology, tools of Recombinant DNA technology were given. SAQ and VSAQ type were given on biotechnological applications in agriculture and medicine and Long answer type questions were given on production of Bt cotton ,insulin production and RNAi	Explanation of: Types of Immunity –Active, Passive, Innate ,Acquired immunity, Autoimmunity, Allergy response, Vaccination and Immunisation; Structure antibody Explanation and Discussion of Animal breeding and Husbandry; Plant Breeding, Tissue culture, Bio fortification and SCP. Notes on types of breeding, SCP and Bio fortification and Tissue culture were given. Explanation of Principles and Process of Recombinant DNA technology was done. Notes on different types of vectors were given. Flow charts were given on the process of DNA technology and gel electrophoresis. Explanation of Biotechnological applications in Agriculture-Bt cotton; pest resistant plants ; in medicine. Notes were given on production of Bt cotton and insulin using *E.coli*.
DECEMBER	CHAPTER 12:BIOTECHNOLOGY AND IT'S APPLICATION CHAPTER 13: ORGANISMS AND POPULATION CHAPTER 14: ECOSYSTEM TOPIC OF BIOLOGICAL SCIENCE PROJECT GIVEN	Gene therapy ,Transgenic animals and ethical issues, Bio piracy Organisms and it's environment ,Adaptation, Population attributes and types of Population interactions Ecosystem –Structure and function; Productivity; Energy flow and energy pyramids	SAQ and VSAQ type of questions were given on the topics- Gene therapy, Transgenic animals and ethical issues, Biopiracy SAQ type questions on Organisms and it's environment, Adaptation, Population attributes and LAQ type on Population interactions. SAQ and VSAQ type questions were given on Ecosystem –Structure and function; Productivity; Energy flow and energy pyramids. PROJECT WILL BE COMPLETED AS HOLIDAY HOME WORK	Explanation of Gene therapy, Transgenic animals and ethical issues, Bio piracy. Explanation of the topics Organisms and it's environment, Adaptation, Population attributes and types of Population interactions- Types of symbiosis, Predation, Host parasite interaction and saprophytic interaction. Notes given on Population interactions. Explanation of structure and function of Ecosystem, Notes of Energy flow and energy pyramids GUIDELINES AND DETAILS OF THE PROJECT WERE GIVEN TO THE STUDENTS

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Submitted on : 15.03.2021

Signature of Teacher : Shaista Ahmed

PRINCIPAL

Academic Co-ordinator : Jayashree Shenoy 15/3/21

VICE PRINCIPAL 15/3/2021

ST. LAWRENCE HIGH SCHOOL

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TERM: SECOND

Subject: BIOLOGICAL SCIENCES

TEACHER`S NAME: SHAISTA AHMED

CLASS: 12 SECTION:A1and A2

Syllabus planning for the academic year 2021

No. of working days:- 27

MONTH	LESSONS	TOPICS COVERED	HOME WORK	CLASS WORK
JANUARY	CHAPTER 14: ECOSYSTEM CHAPTER 15: BIODIVERSITY AND CONSERVATION CHAPTER 16 : ENVIRONMENTAL ISSUES.	Ecological succession. Nutrient cycling, Ecosystem services. Biodiversity – Definition, it's types; Loss of Biodiversity and importance of Biodiversity; Conservation strategies – In situ and Ex situ Conservation Air Pollution and it's control; Water Pollution and it's control; Solid waste Management	MCQs, SAQ and VSAQ type of questions were given on Ecological succession. Nutrient cycling, Ecosystem services MCQs, SAQ and VSAQs type of questions were given on Biodiversity – Definition, it's types; Loss of Biodiversity and importance of Biodiversity; Conservation strategies – In situ and Ex situ Conservation	Explanation of Ecological succession. Nutrient cycling, Ecosystem services was done and Notes were given on Stages of Succession. Explanation of Biodiversity – Definition, it's types; Loss of Biodiversity and importance of Biodiversity; Conservation strategies – In situ and Ex situ Conservation. Notes were given on loss of Biodiversity and Comparison of In situ and Ex situ Conservation was given.
FEBRUARY	CHAPTER 16 : ENVIRONMENTAL ISSUES SYLLABUS COMPLETED SECOND TERM EXAMINATION - 17-02-22	Radioactive wastes, Greenhouse Effect and Global Warming, Ozone Depletion, Degradation by improper Utilization and Maintenance. Deforestation REVISION OF THE SYLLABUS CHAPTERS :1,2,3,4,5,6,7,8,9,10,11,12,13,14,15 and 16.	MCQs, SAQ and VSAQs type of questions were given on Radioactive wastes, Greenhouse Effect and Global Warming, Ozone Depletion, Degradation by improper Utilization and Maintenance. Deforestation	Explanation of the topics- Radioactive wastes, Greenhouse Effect and Global Warming ,Ozone Depletion, Degradation by improper Utilization and Maintenance. Deforestation. Notes were given on Ozone hole Depletion and Greenhouse effect and Global Warming.
MARCH	-	-	-	-
APRIL	-	-	-	-

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